UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

March 21, 2001

Ms. Lauren N. Levine, Environmental Project Manager
Environmental, Health & Safety Group Administration-Pratt & Whitney
1 Financial Plaza
MS-518
Hartford, CT 06101

Dear Ms. Levine:

Enclosed you will find EPA's Comments on Pratt & Whitney's Remedial Action Work Plan for Willow Brook and Willow Brook Pond, November 2000. Comments from both the RCRA Corrective Action Program and the Pesticides, Toxics and Urban Program Unit are included.

Should you have any questions/comments, please do not hesitate to contact us.

Sincerely,

E = R.P.W

Ernest R.P. Waterman, Geologist
EPA New England

Juan A. Pérez, Environmental Scientist
EPA New England

Enclosures

RDMS DocID 00100167

Pratt & Whitney
CTD990672081
R-9
RDMS # 100167

cc: Kimberly Tisa, PCB Coordinator
Pesticides, Toxics and Urban Program Unit

Remedial Action Work Plan for Willow Brook and Willow Brook Pond
submitted November, 2000

Pratt & Whitney
CTD990672081
R-9

General Comments:

There are four key flaws in this work plan as a conceptual work plan and/or 30% design document.

1. No specific Media Cleanup standards or general clean up goals are specified for constituents of concern other than PCBs.

2. Plans for project aspects ancillary to the remediation itself (e.g. the management of water during the project and disposal of remediation waste from the project, controls on future development, etcetera) are unclear at this time.

3. How project components will mate together is unclear (e.g. how halves of the cap will be joined, the boundary of the streambed cap with wetland remediation area, etcetera).

4. How this project will integrate and be impacted by other remediation needs at the site. Most prominent of these concerns is the ground water plume of solvents and chromium that discharges into the lower reach of willow brook within the project area.

Specific Comments:

5. Page 7, Paragraph 2: Specify if the statement "It should be noted that the contamination might have originated from multiple sources" indicates other candidate source areas are suspected or if this is a generic statement that one can never be completely sure all sources have been found. If there are specific other candidates, what are they?

6. Page 9, Paragraph 3: Clarify if the 14-16 feet below grade in the pond area means 14 to 16 feet below the bottom of the pond or 14-16 feet below ground level on the banks of the pond.

7. Page 10, Paragraph 2: Propose Media Cleanup Standards for the other constituents of concern found in the area of the proposed remediation. Although the SVOCs, metals, and petroleum hydrocarbons were not the trigger to the timing of this project. The levels of some of these constituents are quite high and we need to specify remediation goals for these ancillary contaminants.

8. Page 10, Paragraph 3: Propose a framework of institutional controls to govern the flexibility of future use this paragraph seeks to maintain. The remedy currently proposed envisions a specific future use scenario which we have anticipated will be secured by an institutional control on the area. While the alternatives discussed here might be possible the institutional control itself will have to lay out what remediation steps must be added

to change the use restrictions of any area included in the institutional control.

9. Page 13, Construction activities bullet points: 1) Clarify which oil water separator is being demolished. 2) Explain why an engineered control is needed. It was EPA's understanding that the oil/ water separator source area would be completely excavated. 3) Specify the disposal scenario for each of the waste streams itemized.

10. Provide additional information regarding the civil war marker whose relocation is proposed. There are federal statutes regarding archeological and historical resources which may have to be complied with for this marker.

11. Page 16, Paragraph 3: Expand the discussion regarding diversion of flows to explain how the restored channel halves and planned channel armoring will be mated together along the centerline of the project.

12. Page 17, Paragraph 1: Explain how water within the staging areas will be collected. No provision for a sump or other collection point has been specified.

13. Page 17, Paragraph 6: Specify the size of the stones to be used in the gabions.

14. Page 20, Project schedule bullet points: 1) Include engineering design completion as a major step. 2) Provide for interaction with EPA at each major step.

15. Page 22, Paragraph 5: Justify the sample grid size proposed, specify the composite sample detection that corresponds to a 1 ppm and 25 ppm detection in a point sample assuming adjacent points are non-detect.

16. Page 23, Paragraph 1: Provide a figure showing areal pattern of collection points for other constituents of concern and explain how sample point will be selected.

17. Page 23, Paragraph 1: Explain the sentence which reads "...submitted for analysis for metals, VOCs, SVOCs, and cyanide as necessary to determine the lateral extent of the areas to be capped. As pointed out earlier no goals for these constituents has been proposed so it is impossible to tell how the would be used as a guide to cap design. Further it was our understanding that the width of cap was predefined by the project scope we are setting (i.e. we are armoring the entire pond bottom and stream bed and providing a minimum thickness of clean soil over all upland areas excavated.).

18. Page 24, Paragraph 2: Modify disposal characterization to incorporate our knowledge about the areas we are excavating from our characterization sampling and segregate our materials handling to prevent mixing of highly contaminated sediments with relatively uncontaminated sediments.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I
1 CONGRESS STREET, SUITE 1100, BOSTON, MASSACHUSETTS 02114-2023

MEMORANDUM

DATE: January 23, 2001

SUBJ: *Remedial Action Work Plan for Willow Brook and Willow Brook Pond, November 2000*

FROM: Kimberly Tisa, PCB Coordinator
Pesticides, Toxics, and Urban Program Unit

TO: Ernie Waterman, Project Manager
RCRA Corrective Action

I have reviewed the above referenced document (*Work Plan*) for the Pratt & Whitney (P&W) facility located at 400 Main Street, East Hartford, CT. The *Work Plan* describes the remedial activities that are proposed in the Willow Brook and Willow Brook Pond areas. The following comments are based on my review of this *Work Plan* as they pertain to the PCB Regulations:

GENERAL COMMENTS

1. As noted during our meetings, the driving factor for the remediation action levels is eco-risk. Under the TSCA regulations, remediations of this caliber and with the institutional controls proposed would require public participation, normally through a public notice/comment period. This has not yet occurred. As such, it must be clear to P&W that this remediation is, in effect, source removal with interim institutional controls and that P&W is undertaking the measure at its own risk. (Albeit as discussed on several occasions, it appears that what P&W is proposing is reasonable and will most likely pass this type of assessment.) Until we have a human health/eco-risk evaluation and public process, we can not consider the remedy permanent.

   Also, I can find no clear discussion on the piping and/or conduit discharging into the Willow Brook Ponds from the plant or upstream. I believe we had past discussions on these structures and that minimal to no contamination was found; however, it should be redocumented here.

2. I would suggest that P&W provide an analysis of the costs associated with the proposed remedy and its alternatives, including complete source removal.

3. EPA has developed Quality Assurance Guidelines for submission of Quality Assurance

3. EPA has developed Quality Assurance Guidelines for submission of Quality Assurance Project Plans (QAPP). For future sites and projects, I suggest this format be used in that it helps simplify and clarify analytical requirements, sampling methodologies, QA/QC specifications and laboratory requirements. I have enclosed a summary outline of this guidance document which may be obtained from EPA's OEME Quality Assurance office.

SPECIFIC COMMENTS

4. Page 7, 2nd complete paragraph - The text indicates that "free oil" was observed at WT-SB-88 at a depth of 10-12 feet. It is not clear if any sample of this product was collected and analyzed. If so, what were the results?

5. Page 9, Subsection 1.4.1 - The last sentence states that "SVOCs and select metals are co-located with the elevated PCB concentrations". It is unclear how P&W is making this determination. Drawings 1-3 show the constituents of concern and sampling points along Willow Brook and in Willow Pond; however, it appears that much of the analytical determinations were only for PCBs, not for these other constituents. Therefore, it is unclear how P&W can make this assertion. Further, at least one sampling location (e.g. WT-SD-47) shows relatively low levels of PCBs, but much higher levels of SVOCs.

6. Page 9, Subsection 1.4.2 - The text indicates that groundwater contamination will be monitored post-excavation and that new monitoring wells will be installed. There is no indication on the frequency and duration of this monitoring. (Work Plan addresses. See Page 19, Subsection 2.4.2.)

7. Page 10, Subsection 2.0, 3rd paragraph

   a. The text refers to the "PCB action level". This appears to be the driver for cleanup; however, from a cumulative standpoint the other constituents may also be problematic. (See Comment 5, above). Based on the information provided in subsequent sections, it appears that confirmation sampling will include the other constituents of concern; hoever, the target action levels for cleanup have not been provided.

   b. The 1st sentence states that the PCB action level assumes future use of the area as open pond flanked by parking and green space. This is slightly misleading as in the previous paragraph P&W indicates that a fence will be installed around the remediated area to preclude access to the area. In this event, the affected area will not be "open" to the public, but actually be a restricted area.

   c. The 2nd sentence states that if redevelopment involves a bike path or roadway, the area will be remediated so the PCBs are less than 1ppm. In our most recent meeting with P&W, I believe it was indicated that these redevelopment scenarios were no longer

under consideration. If so, the *Work Plan* should be amended and these options deleted. It should also be noted that any future change in the property use would require re-evaluation of the exposure risks and potentially additional remediation.

8. Page 14, Subsection 2.3.1, Decontamination

   a. 1st paragraph - The text indicates that pressure washing will be used for equipment decontamination. The PCB regulations at §761.79(b) and (c) specify decontamination allowances for sampling equipment. The proposed decontamination procedures do not meet any of the specified allowances.

   b. 2nd paragraph - This text refers to the Appendix B SOPs. In reviewing these SOPs, I note that many are very general in nature and are not specifically written for this project. EPA recommends that SOPS be written site specifically as this insures consistency throughout the project.

   c. 3rd paragraph - The text indicates that liquids generated during decontamination will be disposed of via the sanitary system. This is not sufficient. These liquids could contain COCs that exceed the allowable discharge limits under either or both the federal and state regulations. For example, decontamination waters generated during a PCB remediation must be disposed of as a TSCA-regulated material unless the waters are decontaminated in accord with §761.79(b). The discussion needs to be revised to discuss not only state requirements under the discharge permit, but also federal PCB requirements.

9. Page 15, Process Water Buildings - The last sentence refers to the abandonment of pipes and utilities. It any of these pipes/utilities are in contact with contaminated material, decontamination would be required. There is no discussion of this included in the text.

10. Page 15, 3rd and 4th paragraphs - These subsections refer to characterization for disposal of the oil/water separator the demolition debris. It any of the material in question contains PCBs and meets the definition of *PCB remediation waste* as defined at §761.3, the disposal requirements are specified under §761.61(b), unless otherwise requested under §761.(a) or (c). P&W must specify how these wastes will be managed.

11. Page 15, Subsection 2.3.3.

   a. 1st paragraph - The last sentence refers to a lime stabilization procedure to eliminate free-draining water. As discussed with P&W in previous meetings, the PCB regulations specifically prohibit solidification of liquids into non-liquids for purposes of avoiding disposal requirements. Given the types of impacted materials, namely sediments, there is likelihood that the excavated materials will be low in % solids. Some type of dewatering step will be necessary, such as gravity filtration, to remove

as much excess water from these sediments as reasonably feasible prior to solidification. (I believe this comment in addressed on Page 17 of the Work Plan; however, P&W should provide more detail on its implementation., such as how the water will be collected and stored, etc.)

b. 2nd paragraph - The text indicates that excavated areas will be restored with a geotextile, soil and stone cap. Since remediation will be performed in a phased approach, P&W should clarify how these institutional controls will be integrated to achieve an effective barrier to contamination.

c. 2nd paragraph - The text indicates that dewatering pumps will be used to pump water from the side of the dam that will be remediated. How will this water be handled? If P&W plans on "discharging" to the open side, it should clarify how it can insure that contaminated sediments will not be suspended into the water column during the dewatering.

12. Page 16, Dewatering - See Comment 8.c., above.

13. Page 16, Excavation Methods, 2nd paragraph - The last sentence should state "Excavation will continue...in excess of 25ppm within the pond and brook **and** 1ppm within the wetland are removed."

14. Page 17 - A map showing the staging, decontamination and waste storage areas should be provided.

15. Page 17, 1st paragraph - See comment 8.c, above.

16. Page 17, Off-Site Disposal - Why is P&W proposing to dispose of this material at a solid waste landfill? Much of this material contains high concentrations of PCBs and other COCs. Disposal requirements for PCB remediation waste are found at §761.61(a), (b), and (c).

17. Page 18, Subsection 2.3.5, 4th paragraph - See comment 7.c, above.

18. Page 21, Subsection 4.1.2

a. The text states that "The sampling program will be implemented in accordance with 40 CFR Part 761 Section 761.61(c) and in general compliance with Subpart O. I have received no request for a risk-based sampling procedure under §761.61(c). If P&W is requesting a variation from the Subpart O requirements, a formal request must be made and an approval issued.

19. Page 22 - Remedial Action Field Sampling

    a. The SOP associated with Soil Sampling for VOCs is of concern.. The proposed SOP for soil VOC sampling indicates only that the sample must completely fill the sample container. EPA recommends that SW-846 Method 5035 be used for field collection of VOC samples. This minimizes the potential loss of contaminants prior to sample analysis.

20. Page 22, Subsection 4.2.2. - Given the heterogeneity of the contamination, the proposed grid interval for confirmatory sampling appears too large, especially given that P&W also proposes compositing up to 6 grab samples. Further P&W proposes an even larger area (1 per 2,400 ft^2) for confirmatory sampling of other COCs. P&W should provide a justification as to why it believes this sampling scheme is sufficient to ensure target action levels are met for all COCs.

21. Page 23, 1st sentence - The text indicates that additional confirmatory samples for metals, VOCs, SVOCs, and cyanide will be collected. In its investigatory phase, P&W identified several areas where elevated Total Petroleum Hydrocarbons were found. Will confirmatory analysis also include TPH? If so, it should be added and also included in Table 4-1.

22. Page 23, 2nd paragraph , sample collection procedures - EPA recommends that compositing be performed in the laboratory. Further, the PCB regulations require that analytical determinations be performed on, **not reported on**, a dry-weight analysis. Therefore, given the characteristics of the samples (wet sediments), I would recommend that aliquots of the individual grab samples be dried either at low temperature or at ambient temperature in a desiccator, prior to compositing. P&W may also wish to confirm with CTDEP that compositing of samples for confirmatory analysis will be allowed under the state regulations. The compositing discussion should also include a discussion on how the composite sample results will be interpreted.

23. Page 23, 4th paragraph - The text indicates that the sampling device will be decontaminated or replaced with new sampling equipment prior to sample collection. What criteria will be used to make this determination?

24. Page 23, 5th paragraph

    a. The 2nd sentence makes no sense. The text appears to indicate that field screening using test kits will be performed on those samples exceeding 25ppm. Please clarify.

    b. The 3rd sentence is misleading. The test kits don't identify the Aroclor present. Rather, the test kits quantify total PCBs, based on calibration with a specified Aroclor.

25. Page 24, Subsection 4.2.3

    a. The 1st paragraph indicates that disposal characterization samples will determine the appropriate method for handling and disposal. This is not allowed by the PCB regulations for PCB remediation waste. Specifically, the regulations require disposal based on the insitu PCB concentration, not the PCB concentration of the generated stockpile. The generator must select a PCB disposer based on the insitu characterization sampling; however, the disposer may require additional analytical based on its permit conditions and/or requirements.

    b. It is unclear based on the information presented if sufficient characterization samples exist that would allow segregation of lower-contaminated material from higher-contaminated material for off-site disposal. It would be helpful if P&W could specify what it proposes to do with the excavated-contaminated waste. This would enable us to better determine how much additional sampling, if any, would be needed.

    c. 2nd paragraph - Field screening may not be used for segregation purposes unless the field screening methodology has gone through comparison testing as specified under Subpart Q of 40 CFR Part 761. Unless the field screening method is validated, the methods specified in Subparts N and O are required.

26. Page 26, Subsection 4.5.1

    a. What is the disposition of the wastes described in this section?

27. Page 40, Subsection 5.7.4

    a. As discussed in comment 22, above, the PCB regulations require that PCB concentrations be determined on a dry-weight analysis, not reported on dry-weight.

28. Table 4-1

    a. The Table should specify the extraction method associated with each analytical method, if applicable.

    b. The method citation for PCBs is incorrect. The method number is 8082, but the Revision Date is **January, 1998** not January 1988.

    c. At a minimum, any wastewater generated during this remedial process must be tested for PCBs. See comment 8.c., above. This should be noted in the Table.

    d. See Comment 21, above.

e. It is unclear what the "Anticipated Number of Samples" column is based upon. For example, the Table indicates that 65 soil/sediment samples will be collected for confirmatory samples. Note 1 indicates that bottom samples will be collected at 1/400ft^2. Further, on Page 22, Subsection 4.2.2. P&W indicates that up to 6 grab samples will be composited for purposes of confirmatory analysis. Therefore, clarification is needed on how these samples numbers were derived.

f. EPA recommends that some bias sampling, based on visual observations, should be added to this list.

29. Table 4-2

a. The Table indicates that aqueous PE samples will be submitted to the laboratory. EPA recommends that in addition to aqueous PE samples, non-aqueous (e.g. solid) PE samples should also be submitted since the major portion of this project deals with soils/sediments.

30. Table 5-1

a. Methods specified in Table 5-1 do not correspond to those listed in Table 4-1.

b. The PCB PQLs for aqueous matrices is too high given that the decontamination standard for water is 0.5 µg/L (see 40 CFR §761.79(b)).

c. P&W should also confirm with its selected laboratory that it is capable of achieving the stated PQLs.

d. The selected laboratory's SOP numbers for the cited methods should also be included in this section. Also the laboratory's internal QA/QC requirements should be included.

31. Table 5-6

a. Duplicative of Table 4-3.

32. SOPs - See comment 8.b., above.